Iron causes atherosclerosis

Sometimes charts and graphs are worth thousands of words.

The following charts come from the article “Body Iron Stores and the Risk of Carotid Atherosclerosis”.(1)
Incidence of carotid atherosclerosis in population 40 to 59 years old by sex, menopausal status, and ferritin concentrations.

Ferritin is the most common measure of body iron stores. In the above chart, the cutoff of 50 μg/L (same as ng/ml) which, according to the authors, represents the 33rd percentile in men. In other words, only one-third of men between ages 40 and 59 had a ferritin level of 50 or less, which gives them low risk of carotid atherosclerosis — hardening of the arteries in the neck.

In turn, carotid atherosclerosis greatly increases the risk of stroke. We can be sure that many of these people with carotid atherosclerosis are also having problems with their coronary arteries, leading to increased heart attack risk.

Men at that age have more than 3 times the risk of carotid atherosclerosis as do fertile women, likely in the main due to higher iron stores. Men with ferritin > 50 had 16 times the risk as those with ferritin < 50 (4.8 vs 0.3).
Risk of atherosclerosis by quintiles of ferritin.

It can be seen that risk rises starting right from level I, which at the upper limit of 36 is enough to prevent iron deficiency. The average male ferritin level in the US is 137, or within the level IV quintile, and many men have levels that put them in quintile V, i.e. at high risk. Those in level V had about 5 times the risk of those in level I.

Iron is a potent pro-oxidant, and stimulates lipid peroxidation and protein malfunction, and this is why it wrecks arteries. Ferritin is the “safe-storage” form of iron, but free radicals in cells can cause release of iron atoms from ferritin, thence to damage cells and tissues.

The lesson is simple: keep ferritin levels low to avoid hardening of the arteries and subsequent strokes and heart attacks.

I wrote much more on this in my book, Dumping Iron.

________________________

PS: Check out our Supplements Buying Guide for Men.